

SHOULD MEASUREMENT OF COGNITION BE PART OF RECOVERY PROGRAMS FOR PATIENTS WITH PSYCHOTIC ILLNESS?

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SUMMARY

The recovery model of schizophrenia is central to the development of community services for patients with schizophrenia. However often when applying the recovery model of psychosis, often formal identification of cognitive impairments is not carried out, nor are interventions to improve cognitive functioning offered in a targeted way. Here we discuss how these issues relate to each other and argue for the use of cognitive testing in order to elp recovery in schizophrenia.

Key words: schizophrenia - recovery model - cognitive impairments - cognitive testing - cognitive remediation

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INTRODUCTION

In the recent issue of World Psychiatry, Zipursky and Agid have raised the important issue of encouraging the concept of recovery in schizophrenia (Zipursky 2015). We would like to comment further on the use of cognitive measurements in monitoring the recovery process.

Programs based on the concept of recovery are the predominant model for working with patients with psychotic illness at the present time in UK and USA. These programs capitalise on the idea that patients should achieve autonomy so that they can manage their own lives and their own illnesses, changing their habits and ways of thinking so as to be able to maintain wellness and avoid relapse and lead fulfilling lives, even in spite of ongoing residual symptoms. Psychoeducation and identifying of early signs of relapse, and knowledge about how to respond are important here, as are avoidance of harmful behaviour such as illicit drug use, and patients are encouraged to be creative and individualistic, in order to foster their autonomy and self worth. Scales such as the 'Recovery Star' are commonly used in UK in order to attempt to measure achievement of autonomy and self worth. Recovery is therefore more than the disappearance of symptoms. It is 'a deeply personal, unique process of changing one's attitudes, values, feelings, goals, skills and/or roles. It is a way of living a satisfying, hopeful, and contributing life even with limitations caused by illness. Recovery involves the development of new meaning and purpose in one's life as one grows beyond the catastrophic effects of mental illness (Anthony 1993). Cognition should be as intact as possible in order for the personal development to be optimized. However, patients with schizophrenia

are known to experience cognitive difficulties. Therefore, it would seem important that the monitoring of cognition should be carried out in these patients so that realistic goals can be established in order to guide the planning of the recovery process. Having said this, we do not wish to imply a necessary limitation imposed by the measuring of cognition on patients' personal achievements, but the use of systematic cognitive measurement as an aid to the recovery process.

Loss of grey matter in schizophrenia

It is well known that schizophrenia is a disease with very heterogeneous outcomes, and impaired cognition, presumably linked with loss of grey matter. Such loss of grey matter has been demonstrated in both chronic patients (Meisenzahl 2008), first episode patients with psychosis (Meisenzahl 2008, Tordesillas-Gutierrez 2015), and even patients who are at ultra high risk of psychosis (Meisenzahl 2008, Pantelis 2003). Related to this loss of grey matter, it is also true that cognitive defects are common in schizophrenia, indeed they appear to develop early on in the illness, including during at risk mental states.

Cognitive deficits in schizophrenia (staging model) and impact on the functioning

The staging model of schizophrenia defines its course and classifies the clinical and functional levels of deterioration from the perspective of early and latter brain alterations (Agius 2010, McGorry 2008, Wood 2011). In line with this model, cognitive abnormalities are present throughout the course of schizophrenia, starting presumably in the prodromal phase, deteriorating and reaching the peak at the manifestation of

the first psychotic episode and remaining relatively stable or even in some cases improving in the follow-up (Lewandowski 2011). The dysfunction in working memory, attention, and processing speed are already detected in individuals with family-risk for psychosis (Cornblatt 2009, Niemi 2005) and in children who developed adult schizophrenia (Reichenberg et al. 2010). It has been widely accepted that cognitive deficits in schizophrenia have a great impact on social functioning (Green 2001). Some functions, notably the performance on memory and attention, have a good predictive validity in defining social and role functioning outcomes (Torgaldboen 2014).

How cognitive tests' performances in schizophrenia are associated with recovery?

Longitudinal studies repeatedly showed that poor cognitive performance is related to the poor outcomes (Green 2004). Speaking of the cognitive functioning in patients with recovery, several studies demonstrated specific tests' performances to be better in recovered patients. To date, the most accurate predictor of clinical recovery is a Verbal Fluency Test (Falber 2011, Jordan 2014), however, the authors concluded that the improved cognitive performance did not accurately predicted clinical recovery. Similar results were reported on cognitive functioning and functional recovery (Gonzalez-Blanch 2010). It was shown that a level of sustained attention as well as negative symptoms predicted a good global functional outcome. However, the authors indicated that the inclusion of just these two factors was not enough to classify patients into groups with good and poor functional outcomes. In their opinion, cognition has rather a role of a moderator than an independent contributor into the recovery. Indeed, the lack of the predictive value of cognition might be due to the discrepancy in scores between individuals as well as the contribution of other factors, such as level of motivation or social skills (Brekke 2010).

Do patients with recovery have a specific cognitive profile?

The studies that are focused on the specific cognitive profiles of the patients with recovery are sparse. In a study of Kopelovitz et al. (2005) patients with recovery over performed non-recovered patients on executive functioning, verbal fluency and verbal working memory tests. Visual processing test performance was identical in both patients groups, although it significantly differed from controls. In another study, using Luria approach, we demonstrated that recovered patients were better in executive functioning, also benefited from external correction, exhibited less prominent deficit of memory and perceptible functions (Zaytseva 2012). Interestingly, the executive functioning performance, specifically the application on Wisconsin Card Sorting Test, might correctly classify the diagnosis of patients with schizophrenia and distinguish them from patients with

bipolar disorder (Peña 2011). Perhaps, this test may be useful for detecting the patients that are prone to recovery.

Why it is important to include cognitive functioning into the recovery model?

Cognitive studies usually report cognitive impairment of the specific functions and the severity of cognitive deficits but rarely underline the role of the intact or less effected cognitive functions in schizophrenia (Pantelis 2015). Unaffected or minimally affected cognitive functions might be considered as one of the potential personal resources in recovery. It has been demonstrated that some cognitive functions are more amenable for improvement and sensitive to therapy. As Smith et al. (2015), showed, patients who had a verbal fluency score above the median showed more robust improvement in Community re-entry program (CREP).

One more issue should be raised. The meta-cognitive functions or self-perceived cognitive level of functioning may also influence the subjective experience of recovery (Kukla 2013). As it has been stated by Verdoux et al. (2010), that patients with higher cognitive functioning demonstrate a higher level of meta-cognition which allow a greater awareness of the cognitive difficulties.

Therefore, cognition and meta-cognition, along with other clinical and functional factors, mediate the process of recovery in schizophrenia. Further research is needed to address cognitive and metacognitive capacities of patients with schizophrenia. Cognitive profiles should be defined, also taking into consideration cognitive strengths and weaknesses of patients. This approach might be beneficial for the development of case-oriented cognitive remediation strategies to improve functional schizophrenia outcomes and stimulate recovery. Hence, it is our view that identification of cognitive defects and consideration for how they may be improved should be an important for services which are aimed at recovery from psychosis.

Acknowledgements: None.

Conflict of interest: None to declare.

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